CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. _____

FOR

MILLENNIUM HOLDINGS, LLC
CLOSURE OF THE
RISING STAR WASTE ROCK CONTAINMENT FACILITY
SHASTA COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated April 2000, is ordered by Waste Discharge Requirements Order No._____.

A. REQUIRED MONITORING REPORTS

Report		Due
1.	Groundwater Monitoring (Section D.1)	**See Table I**
2.	Annual Monitoring Summary Report (Order No. _____, G.6.)	**31 January**
3.	Unsaturated Zone Monitoring (Section D.2)	**See Table I**
4.	Storm Event Monitoring (Section E.)	**As indicated**
5.	Response to a Release (Standard Provisions and Reporting Requirements)	**As necessary**

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. _____ and the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Each monitoring report shall include a compliance evaluation summary as specified in Section G. Reporting Requirements, of Order No. _____.

Field and laboratory tests shall be reported in each monitoring report. Semiannual and annual monitoring reports shall be submitted to the Board in accordance with the

following schedule for the calendar period in which samples were taken or observations made.

Sampling Frequency	Reporting Frequency	Reporting Periods End	Report Date Due
Semiannually	Semiannually	30 June	**31 July**
		31 December	**31 January**
Annually	Annually	31 December	**31 January**

The Discharger shall submit an **Annual Monitoring Summary Report** to the Board covering the previous monitoring year. The annual report shall contain the information specified in G. Reporting Requirements, of Order No. _____, and a discussion of compliance with the waste discharge requirements and the Water Quality Protection Standard.

The results of **all monitoring** conducted at the site shall be reported to the Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report (Report)

For each waste management unit (unit), the Water Quality Protection Standard shall consist of all Constituents of Concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points. The Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

a. Identify **all distinct bodies of surface and groundwater** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.

b. Include a map showing the monitoring points and background monitoring points for the groundwater monitoring program and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with §20405 of Title 27.

c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

2. Constituents of Concern

The Constituents of Concern include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The Constituents of Concern are listed in Table I for groundwater, unsaturated zone, and leachate monitoring

3. Monitoring Parameters

Monitoring parameters are Constituents of Concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a Unit. The monitoring parameters are those listed in Table I for ground water and the unsaturated zone.

4. Concentration Limits

For naturally occurring Constituents of Concern or non-naturally occurring Constituents of Concern that have background values, the concentration limit for each constituent of concern shall be determined as follows:

a. By calculation in accordance with a statistical method pursuant to §20415 of Title 27; or
b. By an alternate statistical method acceptable to the Executive Officer in accordance with §20415 of Title 27.

5. Point of Compliance

The point of compliance for the water standard is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

6. Compliance Period

The compliance period for each Unit shall be the number of years equal to the active life of the Unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

D. DETECTION MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and the unsaturated zone, in accordance with Detection Monitoring Specifications of Waste Discharge Requirements, Order No. _____. All monitoring shall be conducted in accordance with an approved Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, unsaturated zone monitoring devices, and leachate monitoring points shall be sampled and analyzed as indicated and listed in Tables I and II.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified.

The Discharger may, with the approval of the Executive Officer, use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

1. Groundwater

The Discharger shall install and operate a groundwater detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27 in accordance with a Detection Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

At each sampling event, the Discharger shall determine the groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results semiannually, including the times of highest and lowest elevations of the water levels in the wells.

Hydrographs of each well shall be submitted showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared, based on quarterly measurements, and submitted annually.

Groundwater samples shall be collected from the point-of-compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring system. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table I. All monitoring parameters shall be graphed so as to show historical trends at each monitoring point.

2. Unsaturated Zone Monitoring

The discharge pipe of the toe drain of the disposal cell shall serve as the unsaturated zone monitoring point. The Discharger shall collect, preserve, and transport samples in accordance with the quality assurance/quality control standards contained in the approved Sample Collection and Analysis Plan.

Samples shall be collected from the toe drain **immediately** upon detection of the discharge of liquid in a previously dry sump, and on a semi-annual bases thereafter. The collected samples shall be analyzed for the listed constituents in accordance with the methods and frequency specified in Table I.

The quantity of liquid shall be measured and reported as Toe Drain Flow Rate (in gallons/day).

All monitoring parameters shall be graphed so as to show historical trends at each monitoring point.

E. STORM EVENT MONITORING

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events* or as early as access allows. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by:_____
THOMAS H. PINKOS, Executive Officer

_____
(Date)

PVW:sae

TABLE I

DETECTION MONITORING PROGRAM

Parameter	Units	Frequency[1]
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Semiannual
Temperature	^{o}C	Semiannual
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Turbidity	Turbidity units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Sulfide	mg/L	Semiannual
Iron	mg/l	Semiannual
Constituents of Concern		
Copper	ug/l	Semiannual
Cadmium	ug/l	Semiannual
Zinc	ug/l	Semiannual

[1]Semiannual samples shall be collected in February and August of each year

TABLE II

CONSTITUENTS OF CONCERN & APPROVED ANALYTICAL METHODS

Inorganics (dissolved):	**USEPA Method**
Cadmium	7131A
Copper	6010
Zinc	6010
Iron	6010
Sulfide	9030B